



Frequently Asked Questions About Ambient Air Monitoring In South Carolina

Why is the air in South Carolina being monitored?

Air monitors are operated throughout the state to measure the concentrations of pollutants in the air that everyone breathes. The Federal Government, through the Clean Air Act and the U.S. Environmental Protection Agency (EPA), set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The best way to know the pollutant concentrations is to measure them using samplers and monitors.

Who is responsible for monitoring the air quality in South Carolina?

In South Carolina the Department of Health and Environmental Control (DHEC) operates the air monitoring network.

What pollutants are being monitored through the program?

The monitoring network was initially designed to focus on six pollutants that were identified as the greatest health concern. National Ambient Air Quality Standards were set for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), particulate matter (PM), and sulfur dioxide (SO₂). In addition to monitoring for these six criteria pollutants, DHEC also monitors and samples for State standards, such as total suspended particulate (TSP) and fluoride, and for other pollutants and effects (like acid rain) that are a concern.

What purposes do the air monitors serve?

Each monitor in an air monitoring network is placed to answer a basic question. The main objective may be to determine the highest concentrations expected to occur, the highest concentrations where people live, the impact of significant sources on ambient pollution levels, background concentrations, pollution transported across regions, or concentrations that may have non-health related impacts, including reduced visibility and effects on vegetation, including crops.

What area does the monitor represent?

Each monitor provides pollutant measurements that are representative of an area that may range from several blocks to many miles across. This is called the 'Scale' of the monitor. Scales range from Microscale (10 to 300 feet) to National and Global Scale (up to thousands of miles). The largest scale represented by a South Carolina monitor is Regional, which in this case is approximately 50 miles in diameter.

What factors are used to determine the location of an air monitor?

The area for a monitor location is picked primarily depending on the purpose – the question that will hopefully be answered by the information that will be collected. Guidelines for each pollutant, objective, and monitoring scale make sure the data is not influenced by pollution sources unrelated to the purpose. In addition to nearby sources, prevailing wind direction, wind speed, and good exposure to the air are important. Finally, availability of a suitable site is often the last deciding factor in the final location.

Can monitors be moved? Why not move the monitors from place to place?

Monitors can be moved, but because of the changes in weather patterns from year to year (El Nino, droughts, etc.), it is preferable to operate a monitoring site for several years to get a good understanding of the typical air quality in that area. Since one of the goals of an ambient air monitoring program is to track trends and progress, short-term monitoring is less helpful in understanding the air quality in an area. Longer monitoring periods can show the influence weather has on air quality and can show us a more complete picture of what is happening. Many of the national standards require several years of data, in a large part to avoid the impact of unusual years. Once a monitor has reported concentrations over the standard, there needs to be very good reasons to move the site. Once a problem is identified, steps should be taken to correct it.

What happens to the data collected by the monitors?

Once the monitoring data is collected, it is checked for quality and accuracy. The data is placed in a national database where it is available for use by government, scientists, and the public. The data is used to calculate if the area the monitor represents meets the ambient air quality standard for the pollutant being monitored. An area whose ambient concentrations do not meet the standard may be designated as being 'non-attainment,' and DHEC will have to develop a plan showing how pollutant concentrations will be reduced to improve air quality and meet the standard. Monitoring will need to be continued at least until it is shown that the standards are being met.

How can I find out about the air quality in my area?

For more information you may contact the Bureau of Air Quality at (803) 898-4123 or go to the Bureau of Air Quality website at <http://www.scdhec.net/baq/>. Information about South Carolina sites, sites in other states, and summaries of the measurements is available at <http://www.epa.gov/air/data/>.